



Magazine

AUGUST 1961





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## POINT of VIEW

THE HOME AND TELEVISION

By Hilde Himmelweit

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# The I C I Magazine

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### Contributors



**Ian Cunningham**, author of the humorous "Silicones on TV," has been with Sales Control on the Silicones Project at Ardeer for the past two years. He joined the Company in 1954 after graduating in history from Glasgow University. He says he would like to claim that his hobbies were beagling, stock car racing, polo and Caucasian folk-music. "Unfortunately," he adds, "honesty forbids this, as it does also my claim to a magnificent future on television."



**Hilde T. Himmelweit**, who writes this month's Point of View article, is a Reader in social psychology at the University of London and a director of the Nuffield enquiry into the effect of television on the young.

**Harry King** is a member of Development Department and has been with the Company since 1934, apart from the six years from 1939 to 1945, when he served with the army. As can be seen from his article, "Grand Prix Weekend," he finds the thrills of the racing circuit of absorbing interest.



**John Stafford**, manager of Nobel Division's Silicones Department, first joined the Company in 1942 and for three years was engaged in the manufacture of incendiary bombs. In 1945 he resigned and returned to university to take his Ph.D., graduating from Cambridge in 1949. He then went back to Nobel Division and worked in the Research Section at Ardeer until 1951. This was followed by two years as assistant to the technical director in ICI, New York. In 1957, when a Silicones Department was formed at Ardeer, he was put in charge of development, and on 1st June this year he was appointed manager.



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FRONT COVER: "Happy as Sandboys." Photo by D. A. Pratt (Publicity Dept., Millbank)

(Taken with Ilford Sportman, Ilfacolour Film. 1/50 sec. at f.8)



WHEN television first came to this country, the optimistic enthusiasts believed it would do great things and open a window on the world, putting the best of everything within the reach of everyone. The pessimists were afraid that television would make the new generation passive and discontented with school, which would seem anaemic by comparison. They feared, too, that eyesight and posture would suffer and that moral stamina would be weakened by the kind of values shown on television, that reading and conversation would disappear, that family life and youth clubs would wither.

Five years' study of the problem in this country by a group of social psychologists showed that neither view was correct. Television proved to be neither as black as it was painted, nor as shining a harbinger of culture and enlightenment as had been hoped. If television is a window on the world, it gives a picture not very different from that provided in books, films, comics, and radio programmes. There was no evidence that children became passive, preferred the edited version of life to life itself, or that they became less interested in school and youth clubs.

CHILDREN were neither more aggressive nor appreciably more knowledgeable than before the introduction of television. Above all, effects differed considerably from child to child, depending on age, sex, intelligence, temperament, and home background.

The possible impact of any new invention that is designed to entertain tends to be exaggerated. The new is seen as more potent than its predecessor, and the public conceived as weak and plastic, passively waiting to be

moulded by the force of the new medium. This is, of course, not the case; it is rather that each individual uses television to fit in with his existing leisure pattern, to suit his needs.

SOME children with many interests give little time to viewing, perhaps half an hour or less a day; others are glued to the television set, and their daily diet may be three to four hours' watching.

This is not the result of the irresistible hold that television has over these addicts, for our study showed that such children in homes where there is no television tend to be film or radio addicts. Television addicts are children whose homes provide too little outlet for their energies, or else children who have difficulty in getting on with other children who shun them, and instead use television for substitute companionship. The amount a child of given age and intelligence watches is a fair measure of the satisfactoriness of his life; the happier and the more fulfilled he is, the less time he will devote to television. Television, we found, is something a child turns to when there is nothing better to do. It fills empty time and, apart from a few specially exciting programmes, it does not really come first in his affections.

To help a television addict it is necessary therefore not to forbid him to watch but rather to find out why, compared with others of his age and ability, he needs television so much more. Television watching here is a symptom, not a cause, and the cure can only come from dealing with the cause.

A television addict, then, is someone who, relative to his age and ability, views a great deal. The definition is

put in these terms because we know that highly intelligent children view less than less intelligent ones—they are more readily bored by the stereotyped diet of television entertainment, enjoy reading more, and have generally a wider range of interests, of which television is only one. For the less intelligent child, the one with fewer interests who reads little outside school, television has to satisfy a wider range of needs, and is to him an important source of information and entertainment. Such children learn a good deal from television, and depending on the quality of programmes, such knowledge may be worth while or worthless. Children learn as much and probably more from dramatic programmes than from information programmes, because if they can avoid seeing serious programmes by judicious switching from channel to channel they will do so.

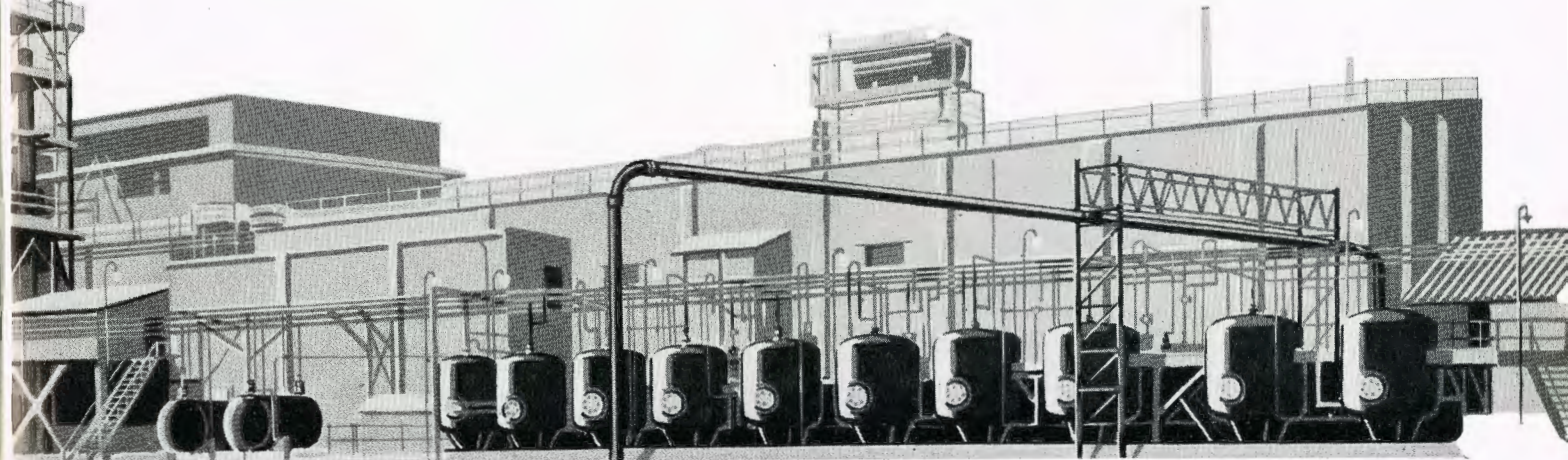
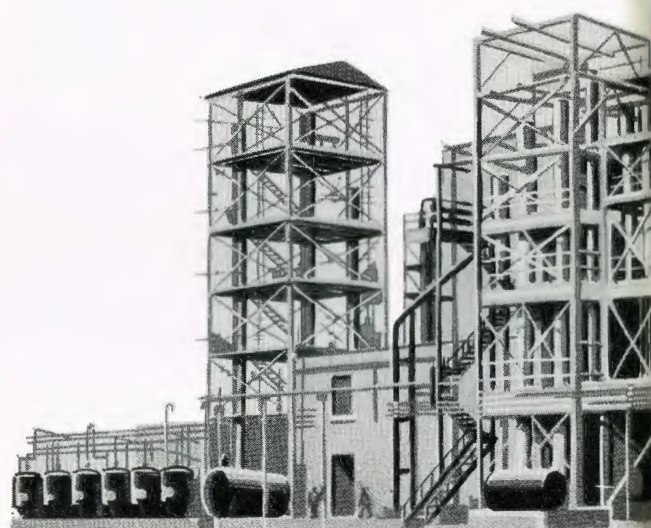
THE extent to which children benefit or are harmed by television depends largely on the way the watching is handled by parents and on the parents' demand as members of the public that better programmes are put on, programmes which do not talk down. Television companies, it would seem, have an idea that the public is stupid and immature; surely it is up to the public to show how wrong this is. Although television has not proved to have the dramatic effects that had been foreseen, its effects on the young are sufficiently strong to warrant that the greatest care should be exercised in ensuring that what is offered is the best available. It is our responsibility as parents and as members of the public to see by our criticism and support that this is done. We have still a long way to go.

The opinions expressed in this article are not necessarily those of the Company



# The SILICONE WONDER

SECRET SERVANT  
OF INDUSTRY



By J. Stafford (Nobel Division)

Drawings by Arthur Horowicz

A silhouette of the silicone plant at Ardeer in Scotland

IT would be nice to think that scientists in real life behaved like some of the scientists in fiction, leaping out of bed in the middle of the night with a loud "Eureka!" and jotting down the formula for some wonder-working substance. The sad truth is that it doesn't often happen like that. Successful discoveries are more often the reward for long, painstaking research than the result of a moment's inspiration. And usually the hardest part of the job is not in arriving at a formula but in putting it to work—a matter of slogging away in the laboratory, in the plant, and in the user's factories.

So it was with silicones. They were discovered—one might say invented, since they do not occur in nature—in about 1910; so one can say that they were roughly contemporary with the earliest electric trams and the first mass-produced motor cars. But it was not until some 30 years later that they were recognised for what they are: some of the most potent, peculiar and paradoxical chemical compounds ever to land on the chemist's plate.

They have been called the secret servants of the mid-twentieth century because the part they play in making life easier is nearly always a hidden one. The

average man in the street's acquaintance with silicones is a nodding one only; he knows they go into easy-to-shine polishes and that his wife sometimes uses silicone-treated non-stick paper for her baking. He may have noticed that his raincoat or golf jacket is shower-proofed with silicones. What he does not know is that half the trappings of civilised life owe something to silicones. Bread? Silicone-treated pans make it easy for the baker to bake his loaves evenly and turn them out cleanly. Bottled milk? The bottles are made in factories where silicones allow gobs of molten glass to slither easily on their way through the machinery. Glue? Silicones are used to suppress the foaming that would otherwise cause a lot of mess and bother in the glue factory. Furniture? Silicones are used in the production of the polyurethane foams that now form the basis of so much upholstery.

The list is almost inexhaustible. But before we get too much involved in the applications of silicones it might be as well to consider what they are.

The easiest way is to establish first what they are *not*—there is a surprising amount of confusion about this. Silicones are not the same as *silicon*, which is one of the chemical elements, second in abundance only to

oxygen. It never occurs naturally by itself, but always in combination with other elements. When it is combined with oxygen it is called *silica*, which everyone knows in the form of sea sand, and which is the main ingredient of most of the rocks on earth.

Silicones, on the other hand, are a group of man-made compounds, in which silicon is combined with carbon, hydrogen and oxygen in the long-chain molecules known as polymers. The name silicone was coined by Professor F. S. Kipping when he discovered these compounds at Nottingham in about 1910. He made his discovery in the course of an academic exercise with a quite different object, and so silicones were relegated to the dusty annals of chemistry until someone else should find a use for them.

The exciting job of brushing the cobwebs off silicones and bringing them to life fell to the research chemists of two American companies—Corning Glass

and General Electric. Quite independently they both began to take an interest in silicones as bonding material for glassfibre, which they were using as an electrical insulant. Silicones not only filled the bill by

matching the insulating qualities of glassfibre, but began to reveal all sorts of quite unexpected properties: nothing would stick to them, they stood up to great extremes of heat and cold, they repelled water, they suppressed foam. And so these extraordinary compounds began to reveal their versatility; now, 20 years later, they are still springing surprises—even on the people who know most about them.

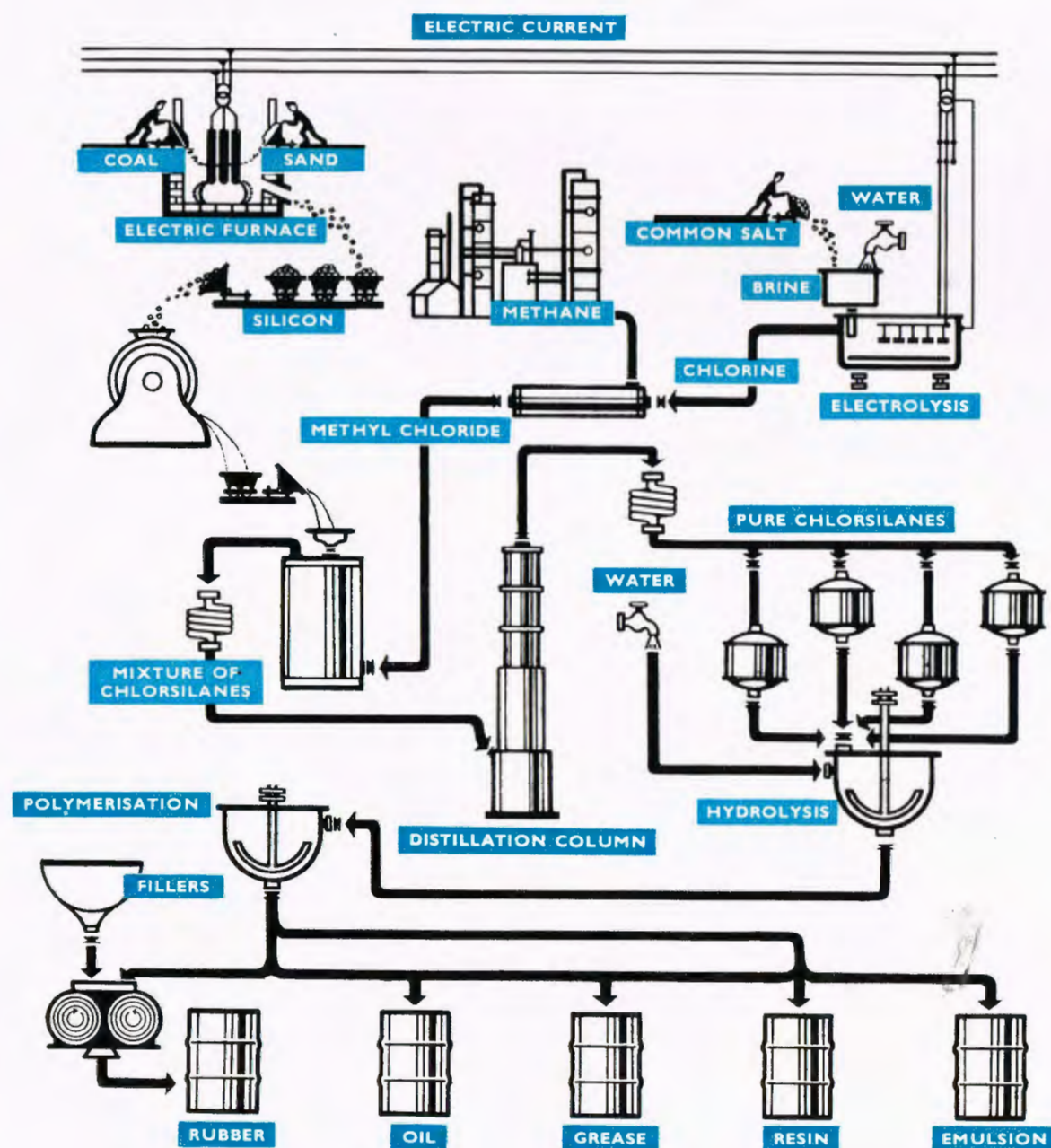
ICI bought its licence to make silicones from General Electric in 1951, and the job of launching their manufacture fell to Nobel Division. The complex plant that towers above the workaday explosives sheds at Ardeer has been extended twice to cope with demand, and embodies more than a few triumphs of chemistry, engineering and chemical

## 'BETTERBAKE'

*In the centre of this magazine is a sheet of silicone-treated baking paper called 'Betterbake'—the trade name for a paper now widely sold by chemists, ironmongers and stationers. Use this paper as a lining to a baking tray and you will find that cakes won't stick to it. In fact, not even a piece of adhesive tape will stick to 'Betterbake.'*



## THE COMPLEX ROUTE OF SILICONES



engineering. Making silicones involves dealing with some extremely nasty corrosive, water-sensitive materials, whose way of torturing plant engineers is to escape through the slightest pinhole in a joint, seal or gland, and some of them can even burst spontaneously into flames on meeting the air. This is not nearly as frightening as it sounds, however; the chemical industry has become increasingly adept at handling awkward liquids, and has also been able to profit by the experience of the Atomic Energy Authority, which processes radioactive materials in completely sealed systems. (It is interesting to speculate, incidentally, whether the chemical industry of Kipping's time could ever have made silicones, even if he had recognised their value as industrial products.)

### Complicated Process

Like most chemical plants these days, the silicones plant is a mass of pipes and enclosed vessels that reveal little of their purpose. Into one end go a greyish powder and a gas. Out at the other come 100 different silicone products in drums and bags and bottles weighing anything from 2 oz. to 450 lb. And between the start and the finish lie a series of processes complicated enough to have daunted all but one other chemical company in Britain.

The greyish powder at the starting point is elemental silicon from France, Sweden, Canada or the USA—countries well provided with the hydro-electric power needed to win silicon from silica. (At General Chemicals Division they have evolved an elaborate process for refining such silicon to 99.99999% purity for use in transistors; but we take it as it is—about 97% pure—for the impurities actually help us.) The other main constituent is methyl chloride, which arrives by road from General Chemicals Division.

### High-temperature Reaction

The two go into a reactor and are heated to about 300° C. At this temperature the silicon atoms can be persuaded to join up with the carbon, hydrogen and chlorine atoms of the methyl chloride to form methyl chloresilanes. These come out of the top of the reactor in the form of a gas, which passes through a condenser. The four types of methyl chloresilane condense at

different temperatures, so we are able to separate them at this stage. These are our four basic building blocks for making silicones.

After the ordeal by fire comes the ordeal by water. The building blocks are treated with water to form compounds which, on being heated again, link up with each other to form the giant molecules known as silicones. According to which building block you are dealing with, you end up, broadly speaking, with silicone rubbers, resins or oils.

### Chemists Talk Airily

Silicone chemists talk very airily about these processes. "We take these three-handed chaps and do so and so," they say. Or "We just burn off that group," or "Then we add a chain-stopper." It comes as quite a shock when you remember that they are not talking about chaps at all, but about individual molecules, so small that no one can ever hope to see them. These have to be sorted out and jostled into chains, with neat chain-stopping molecules at either end, like so many recruits in the awkward squad; and this has to be done on an industrial scale, with an infinite number of molecules, all with the right characteristics representing a pure, reliable product.

## SILICONES ON TV

*An account of the dilemmas facing a scientist in putting over silicones on Scottish TV appears on page 266*

### A Misnomer

Now for a brief look at some of the latest uses of silicones. Silicone rubber is

rather a misnomer, for it owes nothing to natural rubber and outdoes it in many respects. It will stand up to extremes of heat or cold without becoming brittle or breaking down, so that on the one hand you find it being used in the Sno-Cats of the British Antarctic Expedition and, on the other, in the insulation of electrical wiring that may get very hot. In the Royal Navy these days every new ship—and most older ships being refitted—is equipped with cable insulated by silicone rubber. Even if a fire burns the insulation it forms a non-conducting silica ash and the ship's electrical system does not break down. A new type of cable built from 'Terylene' and silicone rubber goes into many military aircraft. Even domestic electrical fittings—particularly flush ones with high-wattage bulbs, which may heat up considerably—make use of silicone rubber insulation in their construction.





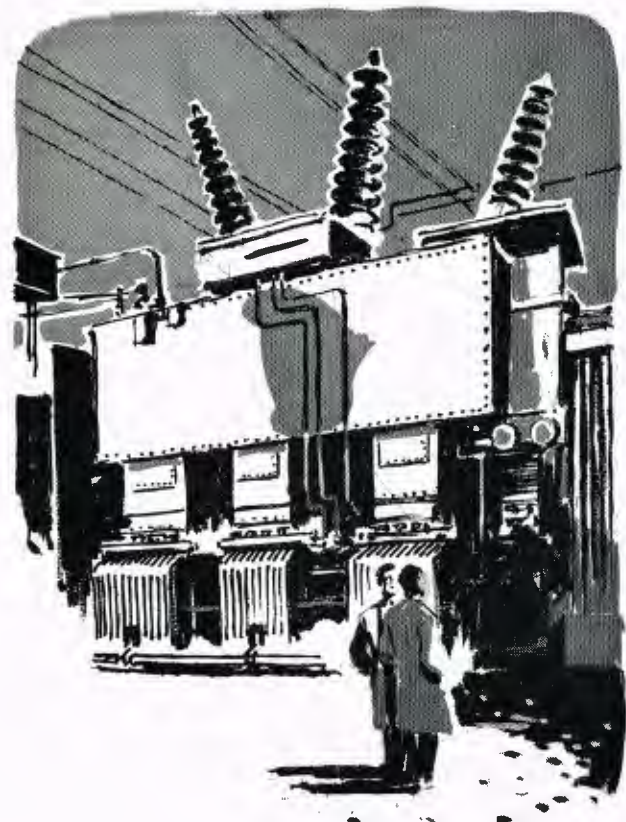
**Car polishes** containing silicone take a lot of the hard work out of rubbing. Silicone greases can also be used to waterproof the electrical systems of a car



**No need nowadays** for a messy grease on baking pans in the kitchen. Silicone-treated paper is used instead, and cakes do not stick to it at all



**Manufacture of bottles** is simplified by the use of silicone emulsions. They are used to lubricate the equipment guiding the molten glass from the furnace into the moulds



**LEFT: Electrical substations** use silicone greases as good water repellents on their large porcelain insulators to prevent the formation of a conducting film of moisture. **ABOVE: In the wiring of flush-fitting electric lights** silicone rubber sheaths are used as an insurance against deterioration of the insulation as a result of heat generated in the confined space. **RIGHT: Porcelain insulators** carrying telegraph wires are also protected by silicone grease



ICI's latest venture in silicone rubber has made a great stir in many industries. Called 'Silcoset,' it can be set at room temperature to any shape you want, and it is already being used for assembling electronic circuits and making chocolate moulds, parts of meteorological balloons, and prototype shoes.

Silicones have been used for some time in the rubber industry to make it easier to release rubber from moulds. In the last couple of years the glass bottle industry has taken up silicones too. The shears that cut the molten glass into gobs are lubricated with silicones; so are the chutes down which the gobs slide on their way to the moulds. A little more development work should make it possible to lubricate the moulds themselves with silicones, and so set the bottle-makers entirely free from inconvenient and inflammable hydrocarbon lubricants.

### Magical Effect

One of the newest and largest markets for silicones is in polyurethane foams. A few parts per million of silicone fluid added to a vat of foaming dyestuffs or glue, or to a tank of sewage, has an almost magical effect: the foam simply collapses. But the same minute quantity is now recognised as an important constituent of the polyurethane foams—particularly the polyether type—that are the latest thing in upholstery and insulation. In some peculiar way the silicone stabilises the little bubbles in the foam and makes all the difference between a good and a mediocre product. It is not easy to explain why this is so, but it is typical of the paradoxical silicones: they are worth trying as the solution to any problem, even if they can logically be expected to give exactly the opposite effect to the one you want!

### Potential Users

In the course of this article—which attempts to do no more than skate about on the surface of the silicone story—I have already mentioned a dozen different industries in which silicones are used. There are literally hundreds more—and twice that number of potential users. This gives some idea of the problems we face. Each





**In the insulation** of electrical systems of naval ships silicone rubber is used because even after a severe fire, in which the silicone rubber itself has burned, a non-conducting ash will be left which will still insulate the cables and allow the ship to operate



**In coal mines** silicone resins are used to insulate electric motors, coal cutters and other equipment which has to withstand hot, wet, dusty conditions



**In blood transfusion** apparatus conventional rubber tubing is being replaced by silicone rubbers, which can be sterilised in boiling water without deterioration and are translucent so that blockages and air bubbles can be seen



**LEFT: The electronics industry** uses silicone greases in a host of different gadgets, from transistors to transducers, because the greases are first-class insulants. **ABOVE: Foaming can be a problem** in a dyestuffs or glue vat, but the addition of silicone fluid has an almost magical effect—the foam simply collapses. **RIGHT: In the air** silicones are especially important. Many aircraft parts are made from silicone rubber, and a silicone fluid is being developed for use in the hydraulic systems of high-speed aircraft



industry must be given good service, fed with new ideas, encouraged when it strikes difficulties. Recently, for example, the development specialists in Nobel Division's Silicones Department (which covers everything from manufacture to sales and technical service) have helped the fabricators of silicone rubber-coated conveyor belting, hose and glassfibre sleeving.

### Growing Market

Since 1955 the world market for silicones has grown threefold. More than half of the 30,000 tons a year produced now are used in the USA, while in Britain we use a mere 1000 tons—plenty of room for expansion here! Competition, between us and our British competitor, and between the British and continental producers, is fierce. Every technological advance is a matter of importance in a market like this, and a great deal of behind-the-scenes work is going on to find a cheaper manufacturing route to the methyl silicones. Over the last seven years Nobel Division has been carrying out research on new routes using a silica or a silicate as starting material instead of silicon; for the cost of silicon, produced from silica in high-temperature furnaces, accounts for much of the cost of our silicones. In fact we have already made silicones direct from both silica and silicate, bypassing silicon, on a pilot plant scale. But it is too early to say if the new route, which is the subject of many ICI patents and patent applications, will be economically attractive.

### Bright Future

Although methyl silicones are the breadwinners of this generation of so-called "classical" silicones, there is obviously a bright future for silicones made from other building blocks. Phenyl, vinyl, allyl, cyano-alkyl and amino-alkyl chlorosilanes are already being used to make finished products, but there are others that are still at the exciting stage of being completely new compositions of matter for which uses have yet to be found. It is safe to say that we are still only on the threshold of the new world that was opened up by the first silicones.



## SILICONES ON TV

By Ian Cunningham

**What is it like to appear on TV for the first time? Ian Cunningham says it reminded him of an operating table, and he felt very like the patient.**

IT happened very casually, almost by accident really. Associated Television had asked for some help on a programme they were planning on silicones and we were all sitting round a table talking about the suggestions we had made when the producer looked over at me and said: "Will anyone be available to give us a hand on Sunday?"

Sunday was the date of the programme, and I imagined he wanted someone to show the demonstrations to the people actually taking part in the programme. I agreed that I could be there.

"That's fine," he said. "There's only one thing—don't wear a white shirt."

"Why not?" I asked.

"It's just that they don't show up too well on the camera. Don't worry about it, though. We'll fix you up with something before you appear in the programme."

So it was that I arrived at the television studio the next Sunday with an outsize butterfly in my stomach and was given the key to a dressing room. I had great difficulty in finding the way into the studio itself, as the only possible door was labelled in red: NO ADMITTANCE. POSITIVELY NO ENTRANCE. KEEP OUT. DO NOT ENTER WHEN RED LIGHT IS ON. The red light was on. "Oh, well! If they don't want me," I thought to myself; but before I could move the door banged open and someone came out whistling and carrying a tray of empty teacups.

I went in. Nobody took the slightest notice. After a minute or so I spoke deferentially to the person nearest me (the deputy assistant props man, I think). He looked at me in astonishment and pointed to the far end of the studio. There was a table brilliantly lit with several cameras staring at it and half a dozen people clustered round. It reminded me of an operating table, and I felt very much like the patient.

Eventually I was seen and sucked into the preparations for the programme. The part on silicones lasted about a

quarter of an hour and was made up of demonstrations of the properties of silicones, some questions and answers about what they are and how they are used, and an excerpt from a film of the Silicones Plant at Ardeer.

The opening was a very pretty model in a silicone-treated summer dress and hat under a drenching shower of water. The dress and hat, of course, stayed dry but the rest of the girl got thoroughly wet, and as there were several run-throughs in the course of the afternoon she had probably an even more uncomfortable time than I had.

My part was to answer questions from Arthur Garrett (who introduces the programme) and to do the demonstrations. The questions and answers were not too bad, but the demonstrations were tricky. Among other things, I had to put a gramophone record, cast from a silicone rubber mould, on to the turntable and put the pick-up-arm on the right place on the record.

With my shaking hands this was no small task. Commentating on the film of the Plant was awkward, too. I would just have decided what to say about a particular part when the film moved on and I would have to try desperately to think about the next part.

In the course of the afternoon I was greatly impressed by everyone concerned with the programme—the producer, an imperturbable red-bearded Scot, his charming assistant, and the rest of the almost endless variety of people apparently essential to all television programmes.

The solution to the problem of my white shirt really made my day. I was loaned a smart cream one used by one of the doctors in Emergency Ward 10.

Altogether it was a fascinating experience, although, like hitting your head with a hammer, you only really enjoy it when it's over. One of the compensations was the letters from people who had seen the programme and wanted to know something more about silicones. So far, however, there have been no offers for my services from rival television companies.



## August IN THE GARDEN

### WINTER VEGETABLES

By PERCY THROWER

ONCE again this is the month of the flower shows. In my part of the country the big event is the Shrewsbury Flower Show on 16th and 17th August. After visiting shows such as this we begin to compare the fruit, flowers and vegetables in our own gardens with those we have seen at the show. How do they compare? Perhaps we would hesitate to say, although there is no reason why they should not compare favourably with almost anything we have seen. If they do not, there is no need for disappointment; it can urge us on to greater effort next year. In fact we should begin now, for it is the work we do now which will make all the difference: the effects of our work, either good or otherwise, will be seen throughout the whole of next year.

We shall have seen many fine onions, the seed of some of which was sown just about twelve months ago and the seed of others sown during the winter in heated greenhouses.

IN the vegetable garden bare patches of ground are now beginning to show where early sown peas and broad beans have finished and been cleared.

This ground must not be left vacant; it is on such parts of the garden as this that we can sow the so-called autumn-sown onions. There are various varieties to choose from including the well-known Ailsa Craig, Autumn Queen, Flagon and A.I. All that will be necessary after clearing away weeds and other debris is to fork over the soil. Onions like a firm seedbed, so it must be trodden firmly all over to help to break down the larger lumps of soil. Next rake the surface finely and evenly and make the drills half an inch deep and twelve inches apart. Sow the seed very thinly, mark each end of the rows,

and fill the drills in. Apart from having to keep down the weeds, nothing more will be necessary before the spring. From March onwards some of the onions can be pulled while they are green and mild; others can be lifted and planted out, or left where they are to mature. If the ground was well prepared for the peas or beans it should not be necessary to put fertilizer on before sowing the seed; it will be better to feed the onions from the spring onwards.

AND thinking of seed sowing, it is time now to sow spring cabbage. Varieties to buy include Flower of Spring, Harbinger and Early Offenhams. These can be sown at one end of the garden or allotment or on a side border, because the plants will need planting out during the latter part of September.

More lettuce must be sown for late autumn use, and when buying the onion and spring cabbage seed buy some hardy winter lettuce for sowing in September. Two good varieties to bear in mind are Imperial and Arctic King. These are hardy in all but the very cold northern areas and will form large hearting lettuce in April and May.

Lettuce are always in demand during the winter too, for it is at this time of year that they are the most expensive. Cloches can help to considerably lengthen the season of lettuce in the garden, but only in the most favourable districts will it be possible to cut lettuce from under cloches during the winter months. By using cloches we can extend the cutting until into the autumn and have earlier lettuce in the spring.

For cutting during the winter, soil warming either in the garden frame or the greenhouse is, I think, the only answer. Soil-warming cables can be bought these days at

quite reasonable prices, and a garden frame with these installed is a great asset. As well as soil warming it is possible to get air-warming cables for putting round the inside of the frame, and these make the garden frame even more efficient. The soil-warming cables must be laid in sand, which is then covered by four or five inches of good soil. The secret of a succession of lettuce is sowing a small quantity of seed at intervals from now on. Varieties I would recommend for winter cutting in the garden frame or greenhouse are Cheshunt 5B, Cannington Forcing and Cheshunt Giant.

I FIND it best to sow the seed in flower pots or boxes at intervals of three to four weeks right through to January or February.

Considerable losses in frame or greenhouse grown lettuce are caused by botrytis, a fungus which causes the rotting of the lower leaves and then the stems, and the complete collapse of the plants. It usually begins on those leaves which touch the soil. I would strongly advise pricking out the seedling lettuce into paper or papier-mâché pots 2½–3 in. in diameter. When the young plants are well established in the paper pots they can be planted in the frame or greenhouse nine inches apart, but the secret is to leave them in the pots. When planting, leave the top inch of the pot above the soil; the roots will go down into the soil and the raised pot will keep the lower leaves off the soil, thus reducing the risk of losses through fungus disease. Watering is best done in the early part of the day, carefully running the water between the rows and keeping it off the leaves of the lettuce.

Make full use of the garden frame and greenhouse in providing lettuce when they are scarce and expensive.



# LORD MCGOWAN

**Lord McGowan, First Baron of Ardeer and Honorary President of ICI, died on 13th July in St. Mary's Hospital, Paddington. He was 87. Obituary notices appeared in nearly all the national papers and also in the major provincial papers, such as the "Scotsman," the "Glasgow Herald" and the "Yorkshire Post."**

**I**N a notice almost a column long *The Times* said: "Lord McGowan's long and active working life was devoted to the chemical industry, in which, as honorary president of ICI, he maintained an interest to the end. In a remarkable career he not only climbed the ladder from its lowest rungs . . . but extended the ladder above him as he rose. With Sir Alfred Mond (later Lord Melchett) he was the prime architect of Imperial Chemical Industries: its formation in 1926 by the merging of four companies gave Britain for the first time the big industrial chemical group which was essential both for strategic reasons, as the second world war was to demonstrate, and to compete with the great chemical combines of Germany and the United States." Although it is "for this great merger that Lord McGowan will be most generally remembered, his contribution to its creation owed much to his already exceptional experience in this field." *The Times* went on to describe how Lord McGowan brought about a merger of explosives companies in Canada, a concern which was to flourish and later to be renamed Canadian Industries Ltd., and how he was also instrumental in the formation of the South African company now known as African Explosives and Chemical Industries Ltd. "He was also concerned with many lesser consolidations of interest in Europe, Australasia and South America."

After a long description of the formation of ICI and Lord McGowan's career in the Company, *The Times* said: "Some of the personal qualities that made such a career possible have already been indicated. First and

foremost, he always had a clear vision of all the factors relevant to a merger, whether it was great or small. For him, it had to do far more than afford an immediate business advantage: it had also to improve efficiency and—a point always much in his mind—protect the interests of the employees concerned. Coupled with ability quickly to discern the essentials of any problem before him were many other forceful characteristics, including his swiftness to see and seize an opportunity. He himself worked hard and

*A personal appreciation of Lord McGowan  
by the Chairman, Mr. S. P. Chambers,  
will be appearing in the next issue.*

thoroughly; he expected the same of others, and had no use for slipshod work or thought. His admiration was not for the greatness of the job but for the way in which it was done. He was a good mixer, remaining as much at home with the factory workers whom he knew so well in his early days as in the sophisticated company of his later years."

*The Times* also published an appreciation of Lord McGowan by Mr. Edgar E. Lawley on 20th July. Mr. Lawley remarked that *The Times* obituary to Lord McGowan made no reference to his great service to



St. Mary's Hospital. "I feel sure your readers," the writer went on, "would wish to know of the very valuable assistance and wise counsel which Lord McGowan gave, not only to the hospital but also to the medical school and the Wright-Fleming Institute." Lord McGowan was elected a member of the Board of Management of St. Mary's Hospital in 1943, and "it was not until March 1956 that Lord McGowan thought that he would have to give up his active interest, and his resignation from the Board of Governors was received with very great regret. During his lengthy association with St. Mary's Lord McGowan regularly attended various meetings, and his advice was always sought and received with great appreciation. Those of us who served with him as members on committees will not lightly feel the loss of this great man."

### Man of Vision

The *Guardian* described how Lord McGowan "proceeded to bring the chemical industry under his control by amalgamation and agreements. He crowned his work in 1925 by uniting the largest and most powerful remaining independent chemical empire, Brunner Mond, with his own to form the vast Imperial Chemical Industries. ICI's creation was a joint operation between McGowan and Sir Alfred Mond (later Lord Melchett). But its growth and its shaping were very largely McGowan's work, for Lord Melchett died in 1930 and McGowan became chairman and managing director—and in effect the dictator of the whole enormous enterprise. But even his great abilities and his devotion to work (golf apart, he had no interests outside his work) could not overcome the disadvantages of the excessive size of his creation. It had become too big to be managed efficiently from the centre, and the advantages of large-scale production were in danger of being offset by ossification and slow response to change. By 1938 McGowan had decided to reorganise the control of the colossus and give more power to its distant limbs. Nevertheless he kept his hands firmly on the reins. He was by temperament and conviction an autocrat, and a man of vision as well. But he was perhaps too much absorbed in problems of production and management. He was, in fact, politically naïve enough to approve for a time the industrial and economic methods of Germany under the prince of cartelisers, Dr. Schacht. Inevitably, ICI's cartel arrangements with overseas companies included some

with I.G. Farben, the German equivalent of ICI. McGowan had to face glib and dark accusations of having given aid and comfort to the enemy in the interests of ICI's profits. He went to great pains to disprove these unfair charges, but without ever giving up his faith in monopolistic organisation. When he announced in 1950 that he was going to retire, he did so in the knowledge that he left behind him in ICI a standing proof that a monopoly can be both progressive and efficient—though whether a competitive industry might not have been more efficient is another matter, as is the validity of McGowan's belief in economic empire-building."

### Opposed to Nationalisation

"Lord McGowan, who died on Thursday at the age of 87, had in his time controlled for 20 years one of the greatest productive combinations in the world, ICI." This was how the *Daily Telegraph* introduced its full-column obituary. The paper continued: "He never ceased to insist on the fundamental economic truths that there is no known source of wealth except work, and that hard work depends on the incentive of earning a living. Thus believing, he was opposed in principle to nationalisation. Yet when a section of the Labour cabinet in 1949 contemplated nationalising the chemical industry, one of its Ministers said to McGowan: 'It will make no difference; I want you to run it!' For all recognised that this commanding figure of private enterprise designed his vast industrial power to be used in the service of his country."

### Influential Voice

After describing the early years of Lord McGowan's career, from his first job as office boy at 5s. a week, to his position as managing director of Nobel Explosives Company at the end of the first world war, the *Telegraph* remarked: "Thereafter McGowan's masterful activity was directed by the conviction, to which the experience of war had led him, that the future strength of the kingdom and eventually the Commonwealth required the massive concentration of the means to produce the munitions, first perhaps of war, but eventually of peace as well. All that ICI contributed to the war effort and the post-war recovery will not be known until many archives now secret are opened. Its first head was Sir Alfred Mond, but on his death, in 1930, McGowan succeeded, and it was under his direction that it became stabilised as the industrial empire it now is."

The *Scotsman* described how "by his own efforts and abilities, Lord McGowan rose to great influence in the world of industry and commerce. His position at the head of the great combine Imperial Chemical Industries Ltd. made his voice one to be hearkened to in the counsels of multifarious, interconnected and allied industries spread over the world. Acumen, foresight and energy are prerequisites of success in business. Lord McGowan had these qualities in full measure, and to them he added an outstanding power of application. Believing in monopoly-capitalism, he devoted his vast energy and great courage to the attainment of that end. He thrust powerfully and purposefully onward from objective to objective, regarding each as but a necessary step towards the determined goal." After describing the formation of ICI in 1926, the paper commented: "For the next thirteen years ICI and the name McGowan were synonymous. He made the development and consolidation of the vast combine his life work, devoting to the task all the power of his mind and his immense capacity for hard work. No one man, however, can shoulder such a burden unaided, and part of Sir Harry McGowan's greatness lay in his knowledge of men, his unerring selection of the best lieutenants, and the qualities of leadership which drew and attached to himself those who worked with him to the same end. In 1937 his tremendous services to industry were rewarded when he was raised to the peerage as First Baron of Ardeer."

The *Scotsman* also quoted an appreciation by Mr. S. P. Chambers: "Lord McGowan was a truly great industrial leader and a powerful personality. He had the courage to make big decisions and the power to see that they were implemented without delay."

"As a chairman, his outstanding characteristic was the ruthless manner in which he brushed aside technical and other details and went straight to the heart of the problem and then insisted upon its solution."

### An Outstanding Memory

"His understanding of the technical or theoretical aspects of subjects which needed decision was almost non-existent: yet he saw very clearly the importance of having a chemical industry which was technically and financially capable of holding its own with the giants of Germany and America."

"Men who can recognise the big things which need to be done and can do them are few in any generation: the country could do with more today."

The *Glasgow Herald* published an appreciation by Lord Fleck. After discussing Lord McGowan's early career, Lord Fleck said: "It will thus be seen that Lord McGowan's commercial flair was very effective in establishing extensive manufactures in many sectors of the British Commonwealth."

"After the formation of Imperial Chemical Industries he carried on this good work, and became a very live and effective promoter of British industrial practice. This, to my mind, constituted Lord McGowan's greatest contribution to the industrial life of our time. He was gifted with a very good memory, which showed itself in his capacity to illustrate any situation with a story, of which he had an inexhaustible supply."

"But this good memory was also used to very much greater effect: he was able to keep in his mind accurate figures for commercial situations and thus appraise them with great accuracy and shrewdness. This, with his knowledge of scientific things, enabled him to sum up, especially when chairman of Imperial Chemical Industries, any varying situation."

"When all is said and done I believe that his work which will have the greatest permanent value will be that which he contributed to further the influence of Britain throughout the whole of the Commonwealth."

### A Self-made Man

Of the popular nationals, the *Daily Mail* referred to Lord McGowan's physical toughness, and quoted him as having said that he could "sleep on a clothes line and digest nails." The *Daily Express*, referring to a wartime attack upon him for monopolist tendencies, quoted Lord McGowan as replying: "I say definitely that had ICI not been formed in 1926, Great Britain would have been a second-class power to Germany and the US in the production of heavy chemicals, on which our national existence depends." Lord McGowan, added the *Express*, was a self-made man of the old Scottish school. "He took pleasure not in books or the arts, but in the steady improvement of the great business beneath his hand. In 1903 he married a Glasgow girl, Miss Jean Young. It was a conspicuously happy marriage. She went with him as he travelled the world; for Harry McGowan believed that British industry must go out to sell. Perhaps the mould is broken," concluded the *Express*. "Perhaps there are no Harry McGowans among the office boys of the Welfare State. If so, British industry has cause to be worried indeed."



# People and events . . .

## First Plants at Rotterdam

ICI's first manufacturing project within the European Economic Community is to be in the field of plastics. It was announced on 6th July that the ICI Board has given its approval in principle subject to any necessary comments from the authorities concerned to the spending of some £7 million on plants for the manufacture of 'Perspex' acrylic sheet and 'Diakon' acrylic moulding powder and for methyl methacrylate from which they are made.

The main investment will be on the 300 acre site, to be known as Rozenburg Works, which ICI is leasing at Rotterdam. Construction is expected to begin this year, and it is planned to have some of the plants in production by the end of 1963.

## Nigerian Project

PLANS for ICI's first manufacturing venture in Nigeria have also been announced. It has been decided to build two plants at a cost of about £½ million in Western Nigeria to manufacture paints and Plant Protection products. If negotiations with the

Western Region authorities are successfully concluded the plants will be built on a site at the Ikeja Industrial Estate outside Lagos.

The paints factory will manufacture 'Dulux' and 'Pentalite' paints. The other plant will manufacture and pack Plant Protection products of importance to the cocoa industry. These will include 'Gammalin' 20, which controls the capsid bug menace, and 'Perenox' to prevent black pod disease.

## Russians at Welwyn

LAST month Plastics Division welcomed their most important visitor this year, the Soviet Minister of Foreign Trade, Nikolai Patolichev, in

Britain for the opening of the Russian Exhibition at Earls Court. The visit was arranged at Mr. Patolichev's special request. With him were Mr. V. I. Rodnov, head of the Soviet Trade Delegation in London, and Mr. A. I. Ivanov, head of the UK section of the Soviet Ministry of Foreign Trade.

Mr. Patolichev met Mr. J. C. Swallow, chairman, and other directors of Plastics Division before touring the research and technical service laboratories.

ICI sales last year to the USSR and Eastern Europe totalled £5½ million. Commenting on this, the Soviet Minister said that up to now the Soviet Union had had excellent relations with ICI, and he had every reason to believe they would continue to improve in the future.

Three days later Dyestuffs Division were hosts to another party of Russian visitors—eight textile technologists and designers—also in Britain for the Fair. (Picture on page 279.)

## Stormbound on St. Kilda

NOT everyone would relish spending their holiday on a rocky island 100 miles out in the Atlantic off the west coast of Scotland. But that is what Mr. Ian McInnes, a superintendent in the Detonator Department at Ardeer Factory, chose to do this year. He was leader of a Scottish National Trust working party which left for St. Kilda on 3rd June. The party had intended remaining on the island for a fortnight, returning on 17th June. The first part of the plan went well and the party landed on Hirta, the largest island in the St. Kilda group, on the expected date. Thereafter the weather roughened, and when taking-off time arrived no ship could make the journey.



An interpreter translates for the Soviet Minister for Foreign Trade, Mr. N. S. Patolichev (second from right) and Dr. J. W. C. Crawford, Plastics Division research manager (extreme right). (See Russians at Welwyn.)



# People and events

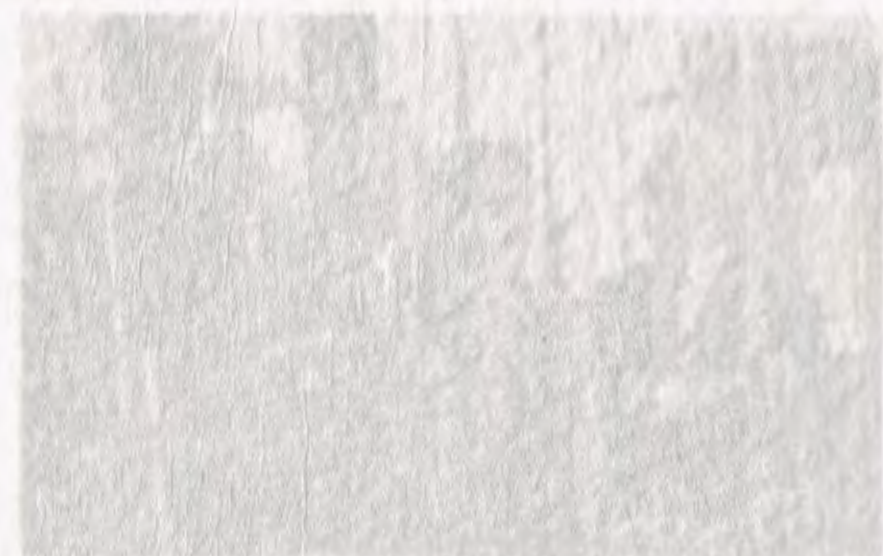
## First Plants at Redford

The first plants at Redford were the first of a new type of plant which has been developed by the ICI Research Department. The plants are of a new type which has been developed by the ICI Research Department. The plants are of a new type which has been developed by the ICI Research Department.

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Weather on St. Kilda was cold. There were hailstorms and winds up to 50 knots, and the Atlantic waves were crashing 50 ft. up the cliff sides. As the storm controlled shipping, contact with the Hirta party during the week they were marooned was made via a Services radio link—the last civilian inhabitants left St. Kilda before the last war.

In spite of the stormy weather, work went on. Much dry stone dyking was restored, and another task was to clear out the old church. There was a theological student in the working party, so divine service was held on three Sundays—the first time for a quarter of a century.

## Unique Pup

A BI-COLOURED pup has focused the attention of the canine world on **Mr. Sam Emptage**, a chauffeur with the Alkali Division at Winnington.

The pup, Sandrick Seagull, which has finally been registered by the Kennel Club after a meeting of the special committee, is believed to be the first ever bi-coloured pure-bred Labrador retriever. Bred by Mr. Emptage at his Barnton home near Northwich, the pup is from two black labradors in



Mr. Emptage with Sandrick Seagull

a litter that contained seven black pups and one yellow. Sandrick Seagull is mainly black, with yellow throat, legs and cheeks.

Many theories have been advanced on the mutations which could have taken place to produce such an offspring, and from a breeding point of view it presents interesting possibilities for producing an entirely new strain of bi-coloured labrador retrievers.

## Safety Cup Results

FIBRES Division, with a 33% improvement on their accident frequency rate over the twelve months ending on 30th June, are the latest winners of the ICI Safety Trophy. Not only do they show the biggest improvement, but their accident rate of 0.190 is the lowest of

(Continued on page 272)

## PEOPLE

**Mr. A. D. Skinner** and **Mr. Tom Knight** (Metals Division) are among the team of twelve crack British marksmen who fly to the United States on 11th August to shoot in the Pershing match at Camp Perry.

**Dr. H. A. Hampton**, head of Dyestuffs Division's Polymer and Chemicals Service Department, was recently invested as president of the Oil and Colour Chemists' Association.

In Edinburgh on 28th June, at the Palace of Holyroodhouse, the Duke of Edinburgh presented his award to young people who had qualified for the gold standard. Among them was **Staff Sergeant Thomas Roberts** of the Ardeer Army Cadet Force, an apprentice fitter.

**Eric Lancaster**, an apprentice electrician at Wilton Works, is a member of the Loftus sword dancing team which will take part in the International Festival of the Vine to be held at Dijon, France, later this month. He was also in the Loftus team which came sixth in the world championships at Llan-gollen three years ago.

It is announced with regret that **Mr. C. W. Perry**, a former director of ICI (India), died in New York on 15th June.

A production chargehand on the 'Perspex' plant at Wilton, **Mr. John Ginty**, has been admitted a member of the Royal Society of Health. Mr. Ginty is a member of the Eston Urban District Council and is a member and former chairman of the Council's Public Health Committee, a member of the South Tees-side hospital management committee, and chairman of the North Ormesby, Eston, Stead Memorial and Normanby hospitals house committee.

## Still Climbing

THE readership of the Magazine is still steadily going up. Last month 92,000 copies were printed at The Kynoch Press—3500 more than a year ago.

The figures for the last five Januaries are:

- January 1957: 81,000
- January 1958: 85,000
- January 1959: 87,000
- January 1960: 88,500
- January 1961: 90,000

Three ICI men recently qualified as "dirigees" by completing the Lyke Wake Walk—a 40-mile trek across the Cleveland Moors—in under 24 hours. They are **Mr. Mike May** and **Mr. Alan Robinson** (Billingham Division), who took 19 hours, and **Mr. David Butcher** (Wilton Works), who took 22 hours 25 minutes. One story of the origin of the walk is that hundreds of years ago corpses were carried over the moors and buried on all the highest points, the graves providing the guiding marks for the walk.

One of the best-known voices in ICI became "unobtainable" on 29th June with the retirement of **Miss Eva Legge** (Mrs. E. Davis), for more than 25 years telephone supervisor at Metals Division Headquarters. She had completed more than 40 years' service, 37 of them on the telephone exchange.

**Mr. Henry Sherbourne**, managing director of Yorkshire Imperial Metals Ltd., which ICI owns jointly with the Yorkshire Copper Works Ltd., has been appointed the new president of the British Non-Ferrous Metals Federation.

**Mr. A. Fraser Much**, ICI Packaging Adviser, has been elected to the Council of the Printing, Packaging and Allied Trades Research Council. He was also in April this year elected national chairman of the Institute of Packaging.

**Mr. Richard Farrand** (Plastics Division) was recently installed as president of the Institute of British Photographers, the "trade association" of Britain's professional photographers. He was head of the Division Photographic Unit from 1947 to 1958 and for the past three years has been engaged on developing special applications of photography for engineering purposes.





Belgian visitors at Wilton. Left to right: Baron Boel, Mr. N. J. Cooper, Mr. E. A. Bingen, Mr. D. M. Bell, M. Jacques Solvay, Mr. J. C. H. McEntee, Mr. J. K. Batty. (See 87-year-old Link.)

any Division for the period of the competition.

Runners-up are Paints Division and ICI (Hyde), joint holders of the Trophy with General Chemicals Division a year ago and outright winners last December. They have a 25% decrease on their accident frequency rate (0.198). Third are Nobel Division, with a 20% reduction and an accident rate of 0.373.

#### IN BRIEF

**'Terylene' Prices Down.** Fibres Division reduced on 1st July the prices of all 'Terylene' staple fibre by 10d. a lb. and 1½ denier staple, which is used by the Lancashire trade and the cotton industry generally, a further 6d. a lb. Expanding production (currently some 50 million lb. a year) has made the reductions possible.

**Brass Band Championship.** One of the bands which will be competing in the final of the *Daily Herald* national brass band championship to be held in London in October is the Peak Dale Band. The conductor is Mr. R. G. L. Hallam of Alkali Division's Tunstead Offices, and six other members of the band are Buxton Lime Works employees.

**Further Triumph.** ICI's first aid champions, the Trafford Park Works (Dyestuffs Division) team, have won the Mather Trophy—a competition organised by the Royal Society for the Prevention of Accidents.

**Fifth Million.** For the fifth time 'Terylene' Works has achieved the target of a million working hours free of lost time accidents. It is the first works at Wilton to do so—and also the first to record a million hours three times in one year.

**Visibility Very Good.** It is always clear weather at Toronto's television station, reports *CIL Contact*. The weatherman faces his audience from behind a transparent 'Perspex' map, which he marks with a grease pencil.

**Inaugural Meeting.** The first Works Council meeting to be held at Cooke's Explosives Ltd., Nobel Division's Welsh subsidiary, took place on 21st June. From now on Cooke's will participate fully in the ICI Works Council Scheme.

### 87-year-old Link

THE visit of senior members of the Belgian chemical firm of Solvay et Cie last month was one of a number of important visits there have been to Wilton by leading industrialists from the Continent this year. The guests were attending one of the periodic meetings of the ICI-Solvay Committee, the ICI members of which were led by Mr. E. A. Bingen, a deputy chairman of ICI.

A special point of interest about this visit to one of the youngest of ICI's developments is the fact that the association with Solvay goes back more than 80 years, when Ludwig Mond and John Brunner began to use the ammonia-soda process—known as the Solvay process—for the manufacture of soda ash at Winnington in Cheshire in 1874.

From the outset there has been the closest technical co-operation between what is now Alkali Division and Solvay, and for many years there have been regular meetings between the two companies.

Among those representing Solvay at the latest meeting was one of the partners, M. Jacques Solvay—great-grandson of Ernest Solvay, founder of the firm, who developed the process and from whom Ludwig Mond negotiated the original agreement.

### Less Time at the Tub

ONE of the snags of synthetic fibres like nylon and 'Terylene' is that they get dirty rather more rapidly than animal and vegetable fibres. This is due to their low water absorption

capacity—the dry fabric picks up an electrostatic charge more easily, which acts as a magnet to minute particles of soot and dirt. It is the same property, of course, which gives the synthetic fibres one of their sterling virtues—they are very quick-drying.

It looks soon as if we shall, as it were, be able to have our cake and eat it. Dyestuffs Division has recently introduced a product called 'Cirrasol Z' specially designed for the treatment of nylon, 'Terylene' and other fibres with low water absorption to reduce their tendency to static generation. Only a small amount is needed. What is more, the applied 'Cirrasol Z' has no effect on the feel or colour of the finished fabric and it isn't removed with washing or dry cleaning.

Unfortunately the 'Cirrasol' treatment cannot be applied successfully to made-up goods but only to the flat fabric. So it will take a little time for goods treated in this way to reach the shops.

### Firearms Expert

IF you want to know anything about guns, Mr. Geoffrey Boothroyd (Scotland and Northern Ireland Region) is your man. In the 10 years that have elapsed since a casual conversation with another addict started him on his martial hobby Geoffrey Boothroyd has amassed a collection of over 150 firelocks, flintlocks, wheel-locks,



Mr. Geoffrey Boothroyd (left) and Ian Fleming, the author

revolvers, rifles and pistols and in the process has become something of an expert. (Cleaning his collection, he admits ruefully, takes a long, long time.)

When the demands of his hobby

permit, he likes nothing better than to sit back with a good thriller. Even here guns are apt to intrude. A favourite author is Ian Fleming, but when he read that Fleming's famous character James Bond nearly lost his life owing to his gun snagging in its holster, Mr. Boothroyd felt impelled to write to the author. A brisk correspondence followed. As a result Bond on his next appearance in print, was equipped with a Smith and Wesson revolver and Mr. Fleming has paid Mr. Boothroyd the compliment of naming the armourer in *Dr. No* after him.

Recently Mr. Boothroyd and the author met when the latter was on a visit to Glasgow. Our picture taken by a *Scottish Daily Express* cameraman records the event.

### Warm Welcome

FRESH from a continental holiday tour on her scooter, 23-year-old Miss Cynthia Williams of Alkali Division thinks the twinning of Northwich and Dôle is a great idea.

Cynthia is secretary of the Northwich Lambretta Scooter Club. Some months ago she and her boy friend Mr. Bryan Foote, who is chairman of the club, planned the first continental scooter tour for the club's 30 members. However, finding that for one reason or another other members were unable to take part, Cynthia and Bryan decided to go it alone. It was on the way home through France after an enjoyable fortnight in Switzerland that they entered Dôle and caught sight of a sign "Dôle and Northwich."

They remembered the twin town scheme and decided to pay their respects to the Mayor. The Mayor was out of town, but on mentioning Northwich at the town Hall they were soon made the centre of warm hospitality.

An official car took them to the local high school, where a young woman teacher who spoke excellent English acted as their guide and interpreter.

They sampled the local wines and visited the Louis Pasteur Museum, a place of particular interest to Bryan, a research pharmacist. They were then taken up to the Solvay Chemical Works, where they were shown over the plant

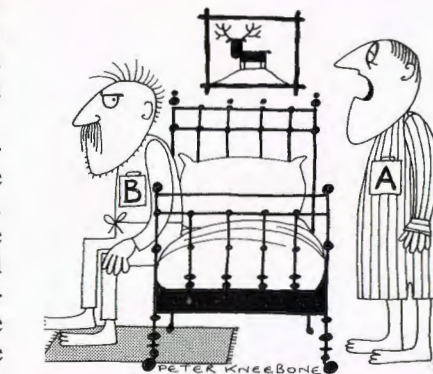
and finally presented with some samples of coloured plastic made at the works.

Cynthia was impressed by the many similarities between Dôle and Northwich. "Travelling up the high street we might almost have been in Witton Street," she remarked.

### A Million Extra Miles

SINCE last April, ICI vehicles carrying what look like two giant blue pepper-pots have become a familiar site on the road leading south from Teesside. Behind the growing frequency with which these loads are being met on the roads lies a story which is involving the Wilton Transport Department in an extra million miles a year—about half as much again as the normal mileage.

In April the department took over the transport of all nylon polymer



manufactured at the Wilton and Billingham plants of Dyestuffs Division to the factories of British Nylon Spinners at Doncaster, Gloucester and Pontypool, Monmouthshire. (It was previously carried by outside road hauliers.)

There are 10 vehicles and 25 drivers employed on the nylon run. They work a round-the-clock shuttle service carefully planned so that polymer chip consignments reach BNS factories at the right time in relation to bunker capacity and the spinning programme, and for a rapid turnaround of containers, because they are expensive items and "dead" time means big money lost.

The drivers operate a shuttle service which takes them away from Wilton at any hour of day or night for approximately three days on the Gloucester or

Pontypool runs, or for a day if they are delivering to Doncaster. On the longer runs there is a staging point near Stratford. There Driver A spends the night, but Driver B who reached Stratford early that morning has had his rest period and takes A's vehicle on to Gloucester or Pontypool, leaving his trailer there and returning the same night to Stratford with another trailer loaded with empties.

Meanwhile Driver A after his rest period takes the load which followed him during the night from Billingham or Wilton on to Pontypool or Gloucester and returns to Stratford with empties. The next day he returns to Wilton with someone else's empties. By this means the vehicles are working virtually non-stop, and vehicles which were new when the system went into operation in April have at the time of writing over 20,000 miles on the clock—an average of 8000-9000 miles a month, or more than many motorists cover in a year.

### Billingham Award

THE suggestion which has just won £100 for Mr. Bill Bowker (Billingham Division) is one of those very simple ideas for saving time and money which might have occurred to anyone. But it didn't until Mr. Bowker bent his brains to the problem.

Mr. Bowker is a processman on the sodium silicofluoride plant, and at a certain stage in the manufacture of this chemical it is run off as a slurry in brine into thickening vats. The slurry sinks to the bottom and is funnelled towards a centre outlet by a slowly revolving scraper. Some of the slurry right at the bottom of the vat, however, solidifies and has to be chipped off and thrown away when the plant shuts down for cleaning.

Until recently this was as often as once a week. But now, thanks to Mr. Bowker's idea, it has been cut to once a fortnight. He reckoned that by



Mr. Bowker



# NEWS IN PICTURES

## Home and Overseas

simply lowering the scraper from six inches to two inches above the bottom of the vat the annoying crust of solid chemical would be greatly reduced. So it has proved, and production as a result is up 50 tons a year.

Mr. Bowker's suggestion has solved another problem too. He had been thinking for some time of buying a car. His recent windfall has settled the question very nicely.

### False Prophets

**D**ENZIL Batchelor, who writes our current series of sports articles, is a man of many parts. Just how versatile his career has been is revealed in his exuberant autobiography, *Babbled of Green Fields*, just published by Hutchinson & Co.

In pre-war days he was the chief journalist writing for women readers in Australia. He was a war correspondent on both sides during the Spanish

glossies, whose wedding he photographed before jumping into the back of the happy couple's charter plane to depict as much of their Riviera honeymoon as could be permitted. It was, considered Batchelor, a witty, charming picture story, but the *Picture Post* big brass would have none of it. "He hasn't a clue," he was told; "I am afraid you had better tell your ambitious young friend that his name will never be heard of." But he didn't like to break the news to Anthony Armstrong-Jones in just those words.

### 50 YEARS' SERVICE

The following employees have completed 50 years with the Company: **Alkali Division:** Mr. J. Astles, Winsford Salt Works (1st July). **General Chemicals Division:** Mr. J. Pitt, Randle Works (11th July). **Metals Division:** Mr. R. Jones, Kynoch Works (26th June 1960); Mr. T. G. Sanders, Kynoch Works (8th July). **Nobel Division:** Mr. A. A. T. Sutton, Westfalite Works (17th July).

### APPOINTMENTS

Some recent appointments in ICI are: **Alkali Division:** Mr. J. K. Steward, Finance Director. **Billingham Division:** Mr. M. D. Bone, Commercial Services General Manager; Dr. R. A. Fairclough, Development and Technical Sales Service General Manager; Dr. I. J. Faulkner, Products Works Manager; Mr. R. Forth, Sales Control Manager, Chemical and Building Products; Dr. P. G. Harvey, Ammonia Works Manager. **Dyestuffs Division:** Dr. W. A. Cowdrey, Research Director; Mr. M. Hopley, Manager of Market Sales Control Department A; Mr. B. R. Roebuck, Manager of Product Sales Control Department; Dr. T. Vickerstaff, Technical Service Director. **European Council:** Mr. P. Blakeley, Head of Techno-Commercial Department; Mr. L. J. A. Merckx, Site Engineering Manager, Rozenburg Works; **General Chemicals Division:** Dr. W. Bridge, Works Manager, Wade Works; Dr. V. G. Cove, Works Manager, Hillhouse Works; Mr. A. V. Johnston, Works Manager, Rocksavage Works; Mr. W. P. L. Nicholson, Labour Manager; Mr. I. T. Pierce, Operations Manager. **Paints Division:** Mr. P. J. Massey, a Commercial Director. **Pharmaceuticals Division:** Mr. A. Bennett, Engineering Director. **The Regions:** Mr. J. G. M. Bradshaw, Regional Sales Manager (Paints), Southern Region; Mr. J. Bruce Jones, Regional Sales Manager (Dyestuffs), Scotland and Northern Ireland Region; Mr. R. R. Veitch, Deputy Regional Manager, Midland Region. **Severnside Works:** Mr. F. B. Hayes, Engineering Manager. **(ICI India):** Mr. J. G. H. Phillips, Personnel Director.

### RETIREMENTS

Some recent announcements of senior staff retirements are: **General Chemicals Division:** Mr. C. Lunt, Works Manager,

Wade Works (retiring 31st December). **The Regions:** Mr. J. H. Jackson, Regional Sales Manager (Dyestuffs), Scotland and Northern Ireland Region (retired 31st July).

### OBITUARY

#### Dr. M. H. C. Williams

Dr. M. H. C. Williams, Division medical officer of Dyestuffs and Pharmaceuticals Divisions, was killed in a motor accident on 9th July. He was 44.

*Dr. A. Lloyd Potter writes:*

The news of Michael Williams' tragic death came as a great shock to all his friends in the Company and to his colleagues in industrial medicine and toxicology throughout the world. He joined the Company's medical service in Dyestuffs Division in February 1948 after serving in the Navy during the war, attached to submarines, and after working with the Medical Research Council. Educated at Harrow, Christ Church, Oxford, and St. George's Hospital, he was highly qualified in medicine, but it was only when he joined ICI that his flair for industrial toxicology became evident. His work in this direction, and particularly in the field of cancer research, built him a world-wide reputation and led to his election two years ago as chairman of the Cancer Prevention Committee of the Unio Internationale Contra Cancrum. In this capacity, and as a member of the Cancer Control Commission, he was able to exert his considerable powers of persuasion towards the abolition of manufacture of certain dyestuffs intermediates which he and others had proved to be carcinogenic.

That his efforts were successful in most of the major manufacturing countries was entirely due to the intense enthusiasm, zest and energy which were so characteristic of the man and which he brought to bear on any problem that he tackled. He had the power of infusing this energy and enthusiasm into others, and his magnetic personality was such that he will always be remembered even by those who met him only on rare occasions.

Not only the medical service, but the Company as a whole has gained much from Michael Williams during the 13 years he has been in Dyestuffs and Pharmaceuticals Divisions, and we shall all be the poorer by his passing.

His premature death under such unfortunate circumstances is a tragedy for the Company and for medical science, but it is especially so for his widow and daughter, to whom we express our deep and heartfelt sympathy.

#### Dr. T. Corlett Mitchell

It is announced with deep regret that Dr. T. Corlett Mitchell, who at the time of his retirement in March 1959 was deputy chairman of Central Agricultural Control, died on 9th July after a long illness.

Dr. Corlett Mitchell had over 30 years' service with the Company, twenty-two of which were spent with ICI (Fertilizer and Synthetic Products) Ltd. and the Billingham Division. In 1950 he was appointed a member of the Central Agricultural Control whose deputy chairman he became in 1951.



**The Chairman meets President Frondizi.** During his recent visit to South America, the Chairman, Mr. S. P. Chambers, was received by the President of the Argentine Republic, Dr. Arturo Frondizi. Sitting round the table (left to right) are Sir John Guthrie Ward, the British Ambassador, Dr. Frondizi, an interpreter, Mr. Chambers and Mr. Arthur Edbrooke, chairman of Duperial Argentina. *Left:* Mr. Chambers also visited Duperial's new industrial site at San Lorenzo. He is seen here walking down Calle Talleres (Workshop Street) with Mr. Leslie Norfolk, engineering director, Mrs. Chambers and Mrs. Norfolk. In the background are the new maintenance and workshop buildings

### WANTED

*The Magazine rather prides itself on its colour reproduction. Practically all our colour features are the work of ICI people, but recently the Editor has been finding he is running short of good colour material. If you have a set of transparencies you think are striking and which you or we could write a story about, please send them to the Editor. Any accepted will be paid for. Incidentally, as transparencies cannot be replaced if lost in transit, we advise registered post.*

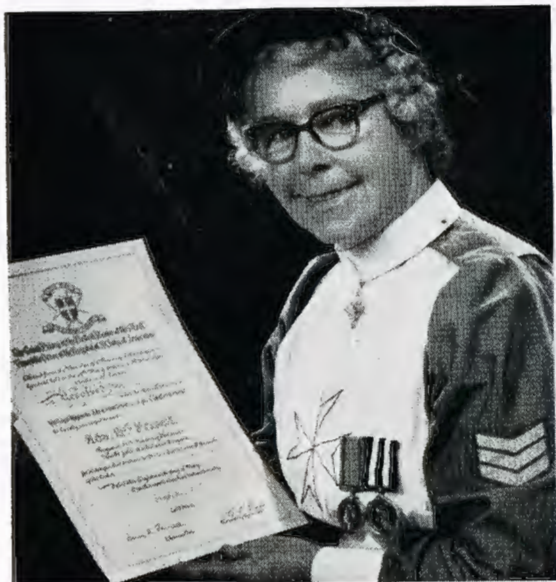
Civil War and from 1939 to 1945 an officer in the Intelligence Corps.

After demobilisation he wrote for a short while the "William Hickey" column in the *Daily Express*, and today he writes as much about wine as about sport. He is also the author of a number of books on cricket and six novels.

The book fairly bristles with anecdotes of the famous. One of the best, perhaps, comes from his *Picture Post* days. An unknown young photographer he knew slightly (then paid a pittance for doing a great deal of unacknowledged work for a famous photographer) produced a story which showed originality and technical skill. He was a close friend of a young bride and groom, well known to readers of the



**Guildhall ceremony.** Mr. Russell Currie (right), head of Central Work Study Department, was invested with his badge of office as first president of the Institute of Work Study by Earl Mountbatten at the Guildhall in London on 3rd July



**First aid honour.** Mrs. Ada Francis, a capstan operator at Witton, has been presented with a certificate for distinguished services by the St. John Ambulance Brigade. She became a member of the Brigade in 1943 and is a familiar figure on duty at many Metals Division functions, during blood donor sessions, and in various parts of Birmingham during royal visits and other important functions



**Flight to remember.** Mr. and Mrs. L. Hough are welcomed aboard a Jersey Airlines DC3 by Air Hostess Lotter, Captain Lane and First Officer Kalber. It was the start of a holiday in the Channel Islands, which Mr. Hough chose as his gift from the Company for 50 years' service at Middlewich Works



**For "Nimrod."** A perspective drawing showing a section through "Nimrod," the new high-energy particle accelerator now under construction at Harwell, and its adjacent buildings. Right: Part of the huge reinforced plastic structure for "Nimrod" made by Marston Excelsior Ltd.



**Cat's hide-out.** The plant cat on Ammonia Works at Billingham was found with two newly born kittens in the open end of a disused pipe—18 ft. above ground and about six or seven feet from the nearest window. After being discovered she was moved to a safer spot inside the plant, and later the whole family were reported to be doing quite well



**First spadeful.** CIL's £1½ million expansion programme for the Central Research Laboratories at McMasterville gets under way as Mr. Peter Allen, CIL president, ceremonially turns the first turf. When completed, CIL's industrial research facilities will be the biggest in Canada





**"Blaze" at Wilton.** Olefine Works, Wilton, became the centre of attraction recently when five County Fire Service fire-fighting units arrived to deal with an imaginary fire in one of the storage vessels on the works. The exercise formed part of the inspection of North Riding Fire Service Units by Mr. W. E. Norwood, HM Inspector of Fire Services



**Two pictures** which show how safety measures pay off. *Left:* Birmingham maintenance fitter Mr. John Richards appreciates the value of safety goggles. While working recently on the tar acids plant he was splashed with phenol. His face was burned but his eyes were protected by his goggles, and what could have been a serious accident was made much less serious. *Right:* Wilton navy and pipe jointer Mr. Arthur Mitchell (*left*) shows Mr. E. H. Ford, a safety officer, the steel toecap which saved his foot from serious injury when the drill of the pneumatic concrete breaker he was using broke

**Gala at Blackley.** Fun and games were provided in plenty at Dyestuffs Division's Blackley Works children's gala day. More than 1000 employees' children with their parents and relations were catered for



**Wilton deeds.** The Vicar of Wilton, the Rev. E. A. Weir, hands over the original deeds of the Wilton Estate to Mr. F. Potter, Wilton Works secretary. The deeds went to the buyer of the last portion of the Lowther Estate, the Wilton Parish Village Hall Committee, who felt that they should be handed to ICI for safekeeping as the owners of the major part

**Russians at Hexagon House.** Eight Russian textile technologists and designers, visiting Britain for the Soviet Trade Fair, toured at their special request the laboratories of Dyestuffs Division in Manchester on 13th July. They met, among others, Mr. I. D. Rattee and Dr. W. E. Stephen (fourth and fifth from right), the discoverers of the 'Procions,' the world's first fibre-reactive dyes





# Have we another champion in the house?

Last month Britain acquired a world middleweight champion in the person of Terry Downes. Have we also a potential heavyweight champion of the world in Henry Cooper, asks Denzil Batchelor, who assesses the chances of a boxer on the way up again since he was k.o.'d by Ingemar Johansson in 1957. Cooper now has eight consecutive victories to his credit.

By Denzil Batchelor

first season stopped or knocked out four opponents, no fight going to the end of the fourth round. In 1955 he won seven and lost two contests, being beaten by Joe Erskine, who was to become his perennial rival, in an eliminating match for a fight for the British title. After this, for a while, he went from strength to strength. He beat Brian London and Joe Bygraves, and seemed the prospect of the year. Then in September 1956, while outclassing Peter Bates, a punch over an eye drew blood which almost blinded him so that he had to withdraw from the fight after the fifth round.

It was the beginning of a nightmare year of eclipse. Ingemar Johansson knocked him out in May 1957; shortly afterwards Joe Bygraves followed suit; then Erskine retained his British title by outpointing him. Cooper began 1958 by boxing a draw with Heinz Neuhaus, whom he should have beaten; and in April lost on a foul to Eric Shoenpner, a German light-heavyweight.

You would have said—most people did say—that Henry Cooper was all washed up. Jim Wicks, his loyal and skilful trainer, his twin Jim and his father, all swore he would come again. They were a minority of

home state—and Eddie Machen, and above ex-titleholder Ingemar Johansson of Sweden.

For reasons which I shall examine in a moment, Cooper, rather than any one of those above him, is the natural and obvious challenger for Patterson to meet; yet it is in the highest degree unlikely that our champion will get a chance to fight for the title in the foreseeable future, even though Patterson with apparent reason feels that he has the beating of Cooper, while the introduction of the one worthy overseas challenger would give a fillip to the stagnant sport in America.

But first of all, how good is Henry Cooper and what are his pretensions to challenge for the title? Our champion, who comes from Bellingham, near Catford, was 27 on 3rd May. He has a twin brother Jim, rated the fifth British heavyweight. Henry is 6 ft. 2 in. and weighed 13 stone 6 lb. for his last fight, with Joe Erskine. He is fair-haired, and by boxing standards almost an Adonis. I should rate him as the equal of Georges Carpentier of nearly half a century ago. Americans consider him almost a ringer for Billy Conn, Joe Louis's opponent, and think that his style, based on one of the handsomest left jabs in the game, is also reminiscent of Conn at his best.

Cooper began boxing seven years ago, and in his

**Temporary eclipse.** *Cooper goes down for the count at the hands of Ingemar Johansson in 1957. Johansson later beat Floyd Patterson to become world champion*

**Henry Cooper**, 6 ft. 2 in. tall, scaled 13 stone 6 lb. at his last fight, aged 27

**T**HE late Gid Seymour, a mighty American editor, once said to me: "If you want to ensure Britain's pre-eminence among the Great Powers, don't bother to invent a super hydrogen bomb or rocket a man to the moon—just produce a British heavyweight champion of the world."

What are the prospects of such a prodigy knocking Khrushchev and Mao out of the headlines within the next year? Curiously enough, they have never been better in the past two decades; and yet they are almost non-existent. We have in Henry Cooper, British and European champion, a boxer rated by the National Boxing Association of America as the fourth heavyweight in the world, behind champion Floyd Patterson, Sonny Liston—at the moment suspended by his





Cooper's right breaks through Erskine's guard and flattens his nose in a fight for the British title in 1955. Cooper lost

three—the rest declared that the coming man was Dick Richardson of Newport, the Welsh tiger who was about to become lord of the jungle. As a formality, he was asked to brush Cooper out of the way: there are plenty of pushovers in every world-beater's record.

But tall, blond Henry Cooper declined to bow out as a pushover. His frolic footwork, his piston-like straight left, and his sapping left hook all combined to make a monkey out of the Welsh tiger. Cooper beat him royally in five rounds—and from that moment onwards everything has gone gloriously for him as it went dismally before. On 14th October 1958 he thrashed Zora Folley, then ranked No. 2 in the world; since then has again beaten London, twice knocked out Erskine, and outpointed Roy Harris, who had fought Patterson for the world's title, and Alex Miteff, the world-ranked champion from the Argentine. In the last of his eight consecutive victories Cooper, starting at 2-1 on, cut open Joe Erskine's

right eye in the third round and his left in the fifth (and last) round. It was a resounding victory—but critics of Cooper did not fail to point out that it was won without the employment of a single workmanlike right-hand punch.

Critics of Cooper—an increasing band, as he forced his way into the limelight with claims for a crack at the world's championship—had other destructive comments to make. The Englishman, American experts reported, had a glass chin and tissue-paper skin. Moreover, like all English heavyweights since Bob Fitzsimmons, he was the next thing to a powder puff puncher. Oh yes, fifteen of his twenty-three wins out of thirty-one contests (one drawn) were by knock-outs, but most of these were mere technical knock-outs—the result of wearing down his man to the point of surrender rather than of putting him down for a count of ten. He was a pretty boxer, granted; a *very* pretty boxer—and his footwork was downright dainty. (But so had been the footwork of Bob Pastor, who had

back-pedalled away from Joe Louis like a trick-cyclist, so that Joe had commented: "They can run, but they can't hide.")

Again there are some who murmur that Cooper is 27. Can he wait much longer, remaining at his peak? But it must not be forgotten that Fitzsimmons was 35 when he won the title, Jack Johnson was 30, Willard was 32, and James J. Braddock was 30. As for Archie Moore, the present world's light-heavyweight champion, he admits to being 45, though his mother insists he is 47.

Well, there he is, Henry Cooper of Bellingham—the man Floyd Patterson ought to meet for the championship. If it comes to that, Cooper had claims on a title bout in 1959, and Patterson passed him up, just as he is passing him up today. The explanation generally given is that Cooper lacks big-time experience, and above all American experience. Let him wipe out his defeat by Ingemar Johansson and beat the consistent Eddie Machen of Oregon, who a couple of months ago outpointed big Mike Dejohn in San Francisco. So Cooper finds Patterson bypassing him in favour of a September match with undefeated Tom McNeeley, who recently stopped Kitone Lave in Boston. After that, well it might be Cooper—if it isn't Johansson or Machen.

So that leaves Patterson a comfortably ensconced champion of the world, but by no means certainly the greatest heavyweight fighter alive. That, perhaps, is Sonny Liston, the Pennsylvania Negro, whose record was recently summed up as "Thirty-two wins, one defeat, sixteen arrests and two major convictions." At the time of writing he awaits trial on charges including impersonating a policeman, resisting arrest and conspiracy. Liston was reported recently to have shaken off his underworld connections, but as soon as the news of his last arrest was published, Cus D'Amato, Patterson's manager, announced: "I believe that people in Washington would expect Floyd, as a good citizen, not to fight such a fellow. And I feel that Patterson, as a good citizen, will not fight him." All highly moral and exemplary, but there is another reason for refusing to fight Sonny Liston—he is liable to beat the living daylight out of Patterson. American boxing writer Dan Parker said of Liston that he is "a latter-day caveman . . . stronger than a yoke of oxen (and just as dumb)." He accused him of ungovernable temper and gutter-type sportsmanship. One thing he couldn't accuse him of was being less than a one-man slaughterhouse in action. He

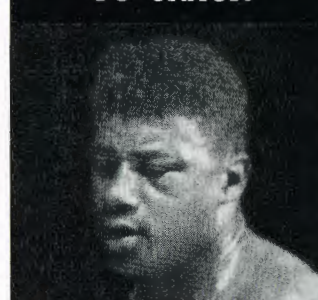
rough-housed and outpointed Eddie Machen (knocked out by Johansson in one round), and then sneered on television at the defeated man's pitiful tactics. He knocked out the mighty Zora Folley in three rounds and also thrashed Howard King in Miami, where promoter Chris Dundee remarked: "I think Patterson fights pretty good, but in my book he's got to beat Liston to prove he's the best, and this I doubt he can."

Patterson promised him his chance once upon a time; now he seems to have withdrawn that promise. For Liston, born one of two dozen destitute children in his family, it is claimed that he is the unlucky dog who has been given a bad name; but it doesn't help his status as a citizen when one Frankie Carbo claims from his prison cell to own 52% of Liston.

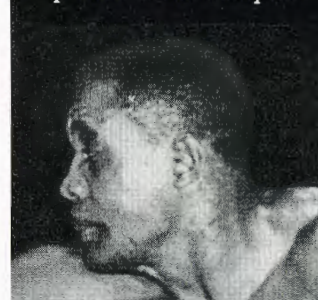
You might think that so outstanding a claimant could not be ignored; but if you do, you are ignorant of the classic history of the ring. Precisely *because* he was the best of all his rivals, Sam Langford was for ever ignored by Jack Johnson after he became champion. The same fate befell Harry Wills—Jack Dempsey somehow or other never managed to meet him. And long ago the mighty John L. Sullivan made the colour bar an excuse for his refusal to fight the even mightier Peter Jackson.

Well, perhaps the existence of Sonny Liston is the best hope Henry Cooper has of ever getting into a ring with Floyd Patterson. But one thing is certain—should he beat Patterson (which would make us believe that the age of miracles is still here), American public opinion would suffer a change of heart about the eligibility of Sonny Liston as a challenger. Patterson may be excused for evading him, but Cooper—never.

## TWO TOUGH NUTS TO CRACK



FLOYD PATTERSON  
present world champion



SONNY LISTON  
"one-man slaughterhouse"



# 'GRAND PRIX' Weekend

By Harry King

**What is motor racing like from the inside as seen by the men who prepare the cars at the pits? The intense excitement, the last-minute improvisation, the inevitable mishap—all are here in a story that brings to life the full-blooded atmosphere of a Grand Prix contest.**

It was late on Friday afternoon, and thoughts of a quiet weekend were broken by the telephone. "Ken Gregory here. We're short of pit staff. Can you come to Brussels tomorrow?" The reply could only be "Yes," as Ken Gregory not only manages Stirling Moss but also the newly formed United Dominions Trust-Laystall team, and the occasion was the Brussels Grand Prix. I have known Ken Gregory since the early days of motor racing at Brands Hatch, and have assisted him occasionally in the pits to help maintain the efficiency for which his teams have been famed since he joined up with Stirling Moss some years ago. Plans were made. Departure time: 6.30 a.m. on Saturday.

My wife accepted it all in her usual stoical manner where motor racing is concerned and saw me off with a smile, after extracting promises to be careful and to buy her that mink coat to make up for it all one of these days. A rapid drive to Southend to catch the air ferry and, after the briefest of delays at Ostend, we were on the motorway to Brussels. In spite of the rain we averaged over 95 m.p.h. and reached the centre of Brussels before eleven. If only it were possible to motor from Dover to London at such speed and conditions of safety! Luggage deposited at the

hotel, we were off to the circuit for practice, the race being held on Sunday afternoon.

The Heysel circuit is only a few miles outside Brussels, just to the north of the city near the Atomium, and consists of roads closed to normal traffic for the occasion. As will be seen from the plan, it is an extremely tricky circuit, 4.552 kilometres in length, which has a number of very tight turns and runs on two occasions beneath the main Brussels-Antwerp motorway, on which, of course, traffic flows during the race. The entry list was impressive, the only notable absentees being Ferrari and B.R.M. The Equipe Nationale Belge had Gendebien (champion of Belgium), Bianchi and Mairesse on Emeryson-Maseratis. Jack Brabham (the world champion driver) and McLaren were to be on 1961 Coopers, Surtees (the world champion motor cyclist turned racing car driver) and Salvadori were also on 1961 Coopers entered by the Yeoman Credit team, while Innes Ireland and Clark had the team Lotus works cars. Our drivers were Cliff Allison and Henry Taylor on U.D.T.-Laystall Lotuses and Stirling Moss on a Lotus entered by Rob Walker. Factory Porsches were entered for Jo Bonnier and Don Gurney, and the field was completed by four further Lotus cars driven by Burgess,

Seidel, Trintignant and Marsh. All these cars conformed to the new Grand Prix 1½ litre Formula I, and the race was arranged to be run in three heats, each heat consisting of 22 laps of the circuit, which was equivalent to 100 kilometres.

Practising had already taken place in the rain on Friday, and the Porsches, which were similar to the air-cooled flat-four types used in 1960 with the addition of starters and batteries to conform to the new formula, had proved to be outstanding. Both cars were fitted with special German Dunlop SP tyres which had proved to be so good at Nurburgring in the wet the previous year, and Bonnier and Gurney held fastest time. Allison and Taylor were reasonably happy although wishing we had some rain tyres similar to Porsche, but Stirling was most unhappy, as his car was misbehaving badly and not functioning on all four cylinders for very long. He summed it up by saying that the engine was so bad that it would not pull the skin off a rice pudding!

## Official Scrutiny

Saturday, although cool, was dry, and when we arrived the cars were being scrutinised by the Belgian officials, and weighed to ensure that they conformed to Formula I specification. All our cars passed without too much argument and use of the slide rule to convert kilogrammes to pounds, and by 3 p.m. we were ready for a further two hours' practice. Porsche were back on normal Dunlop racing tyres, but as the sky was overcast we went over to the Dunlop racing department people, and after some discussion it was agreed they would fly some special

rain tyres from Germany that night in time for the race on Sunday afternoon. We arrived back at the pits where the cars were being warmed up before going out on the track and found Stirling Moss's father in trouble with the police. "Pop" Moss, as we all call him, had mislaid his pass, and as he spoke no French life was becoming difficult for him, as he was about to be removed from the pits area. "Poppa de Stirling Moss," we said, and all was well.

## Practice Before the Race

Lots of handshaking, smiles all round, and we were ready to send the cars out. All the cars, including our three, streamed on to the circuit in case the threatening rain came down. The Porsches were still going well, lapping at 2 min. 5 sec. (131 k.p.h.), while most other drivers were doing around 2 min. 10 sec., with the exception of Surtees and Marsh, who were a little faster. Trintignant was soon out of the running, as his German-entered Lotus made expensive noises and had to be abandoned with a chewed-up crown wheel and pinion, which we later learned was due to his mechanic forgetting to put oil in the transmission! Stirling Moss was still having a great deal of mysterious trouble with his car and borrowed a U.D.T.-Laystall spare Lotus to achieve 2 min. 8.5 sec. in order to obtain a reasonable place on the starting grid, which was decided on Saturday's practice times. Brabham got down to 2 min. 5 sec., but by this time Bonnier and Gurney were down to 2 min. 2.7 sec. and 2 min. 4.7 sec. respectively. Practice ended at 5 p.m. on that note.

After practice the cars were driven over the roads (now opened again to traffic) and parked in a nearby garage,

## PIT SCENES DURING THE RACE



STIRLING MOSS  
*a great deal of mysterious trouble*



BONNIER and GURNEY  
*bad luck with their Porsches*



POPPA MOSS (right)  
*the man who paid for dinner*



together with one of our double-decker transporters (which also acted as a mobile workshop). The other transporter was left at the circuit with the spare wheels and tyres on board. The police were most co-operative and eased the path of the racing cars from the various teams through the traffic. Lack of licences, number plates and insurance cover did not seem to matter in the least on the Continent, and Brussels indeed showed to the full how welcome we were.

### Mechanics Night Work

A quick dash back to the hotel and then on to a reception given by one of the oil companies for all competing drivers and staff. There is a great deal of discussion about the morrow; Stirling's car is still not going well, and the mechanics are to work most of the night to try to discover the trouble. A message arrives to say that rain tyres are on the way from Germany. Innes Ireland has developed slight food poisoning, and Gendebien (whom we know well from the previous season) wants to borrow a spare car from us, as his Emeryson-Maserati is showing signs of mechanical trouble. We are unable to help, as Stirling may want our spare car. And so to bed, with thoughts of rain tyres and all the other problems likely to occur when we assemble again at the circuit.

Sunday morning is fine and warm. Who cares about rain tyres, anyway? A leisurely breakfast with our drivers (Stirling still in bed!), and after a short briefing from Ken Gregory out to the circuit by 10.30 a.m. The crowds are beginning to pour in, and many are already in the grandstands built for the occasion. We drive round most of the circuit to see that no one has altered any of the corners, which are marked with straw bales!

On drawing in to the pits the first signs of panic are evident, as it is found that cars have been allotted entirely different racing numbers from those given to us originally. This apparently is to prevent sellers of unofficial programmes from getting to know the numbers which will be used in the race. We wash off the old numbers with petrol and start to paint on the new ones. In the meantime cars have to be officially weighed again as a final check, fuelled for the race, tyre pressures checked, etc. Contact is made with the timekeeper's caravan to ensure we get the results of the heats as quickly as possible, and drinks are bought for the use of the overheated drivers when they come in to the pits. The U.D.T.-Laystall cars and Stirling are on the third and fourth lines of the starting grid; Bonnier, Gurney (Porsche) and McLaren (Cooper) hold poll positions. A quick lunch for all, and soon the starting time (2.30) approaches.

Eight minutes to go, and Henry Taylor and Stirling are off on a warming-up lap. Cliff Allison's car splutters—two plugs are obviously wet. The fuel pump has suddenly developed a leak, and as this is driven from the end of the

camshaft is causing petrol to enter the cambox and run down the valve guides. Tony Robinson, our chief mechanic, is unperturbed and begins to detach the faulty pump, while our timekeeper keeps his eye on the start line and his watch.

Two minutes to go, and the replacement is nearly fitted.

One minute, and out streaks Allison from the pits straight to the starting grid without a warming-up lap. Trintignant is out of the race, as his car has proved to be unserviceable after its earlier trouble, and Stirling's car sounds no better in spite of the gallant efforts by the mechanics during the night. The sun is shining, the crowd (estimated at over 50,000) in place, all cars on the grid, their engines running, and the starter's flag up. At this moment we are told the rain tyres have arrived. They're off! Heat 1.

### First Heat

McLaren took the lead and was closely followed by Brabham from the second line of the grid, but within a short distance Bonnier and Gurney were close on their heels. On the back straight the two Porsches went ahead and came past the pits in command followed by McLaren (Cooper), Surtees (Cooper), Brabham (Cooper), Taylor (Lotus), Moss (Lotus) and Allison (Lotus). Meanwhile Bonnier was increasing his lead and lapped at 2 min. 3.4 sec. (132.8 k.p.h.). Gurney stopped out on the circuit with gearbox trouble and began walking back to the Porsche pit to arrange repairs for Heat 2. Bonnier was now well in the lead, followed by Brabham, who had got past McLaren and Salvadori (Cooper). Surtees was going well and came up to challenge McLaren, but had the misfortune to break the gear lever while making the attempt and was trying to change gear with the selector rod. He soon fell back to 6th place, but Salvadori in the meantime had come through the field to pass McLaren and now held third place.

### Moss in Trouble

Moss was falling back all the time with his engine popping and banging, and before long was lying last. Surtees came in to the pits for a quick look at his gear lever and shot off again after his team manager had whispered a few kind but encouraging words in his ear. Moss came in, and the mechanics found the magneto was overheating. They started to fit a new one, while Gendebien, who had spun on the circuit, also came in for some rectification of damage to the nose of his Emeryson. Bonnier went merrily on, and the atmosphere in the pits suddenly became electric as it was announced that Brabham and McLaren were being penalised one minute for jumping the start. Lap charts were suddenly more important than ever, and after a few minutes it became apparent

that although Brabham led Salvadori by 45 seconds the latter was, in fact, in second place, and Brabham was now third and McLaren fourth.

Henry Taylor then came in to our pits with a strange-looking front suspension on the Lotus, and we found the weld on the lower wishbone mounting had come unstuck. The car was wheeled away to the car park behind the pits, and Henry resignedly swigged an orange juice. And so Heat 1 ended with Bonnier well in the lead and the other positions unchanged since the minute penalty was announced. Marsh (Lotus) was fifth, Ireland (Lotus) sixth and Cliff Allison (Lotus) seventh. Stirling was able to rejoin the race just before the end, and Surtees, who had managed to get his team manager to let him come in again, also went out and crossed the finish line in tenth position. Bianchi was the best of the Belgians and finished in eighth position.

Twenty minutes between heats, and a lot to do. Surtees had a new gear lever fitted to his car and Porsche attempted to weld Gurney's gear change mechanism, but with no success. Brabham had the chokes in his carburettors changed, and we found that one of the plugs on the Moss Lotus had come loose in its thread, which was faulty. Could it last for the rest of the race? Stirling was prepared to bet that it wouldn't. Ken Gregory and I took him on—loser to buy dinner that night. Five minutes to go, and our two remaining cars go out again, Allison on the third line of the starting grid and Stirling all alone at the back. Flag up and they're off again. Heat 2.

### Beautiful Start

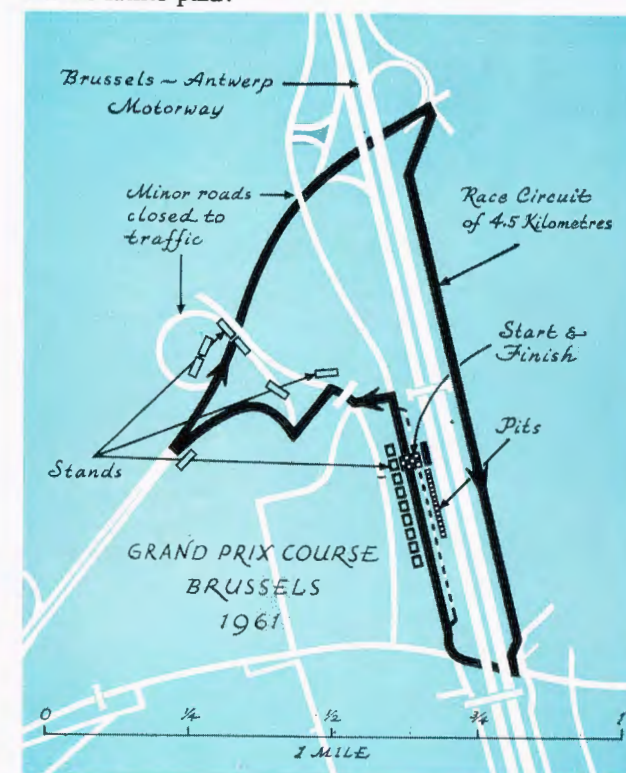
Bonnier made a beautiful start and went off into the first corner, chased by McLaren, Brabham, Salvadori, Marsh, Surtees, Ireland and Moss. Surtees was now obviously intent on challenging the Porsche and passed Salvadori on lap four and set up a new lap record of 2 min. 3 sec. in the process. On the next lap he got down to 2 min. 2.6 sec. and got past both Brabham and McLaren. So it went on until the tenth lap, when he was only 2 seconds behind Bonnier, who was driving calmly with the maximum points from Heat 1 safe in his pocket. Moss had dropped back after a good start with the same troubles as before, and was now lying eighth behind Bianchi and Allison. Gendebien had gone out after colliding with team mate Bianchi, whose exhaust pipe split his radiator.

At this point—the twelfth lap—Surtees made his challenge to Bonnier, and as they went into the narrow section of the circuit between some houses his nose touched Bonnier's tail and both cars spun. In doing so they collided, damaging the rear suspension of both cars. Brabham now jumped into the lead, followed by McLaren and Marsh, and the heat finished in that order after Salvadori had retired with a broken tappet. Ireland was fourth, Bianchi fifth, Allison sixth, and Moss, who had

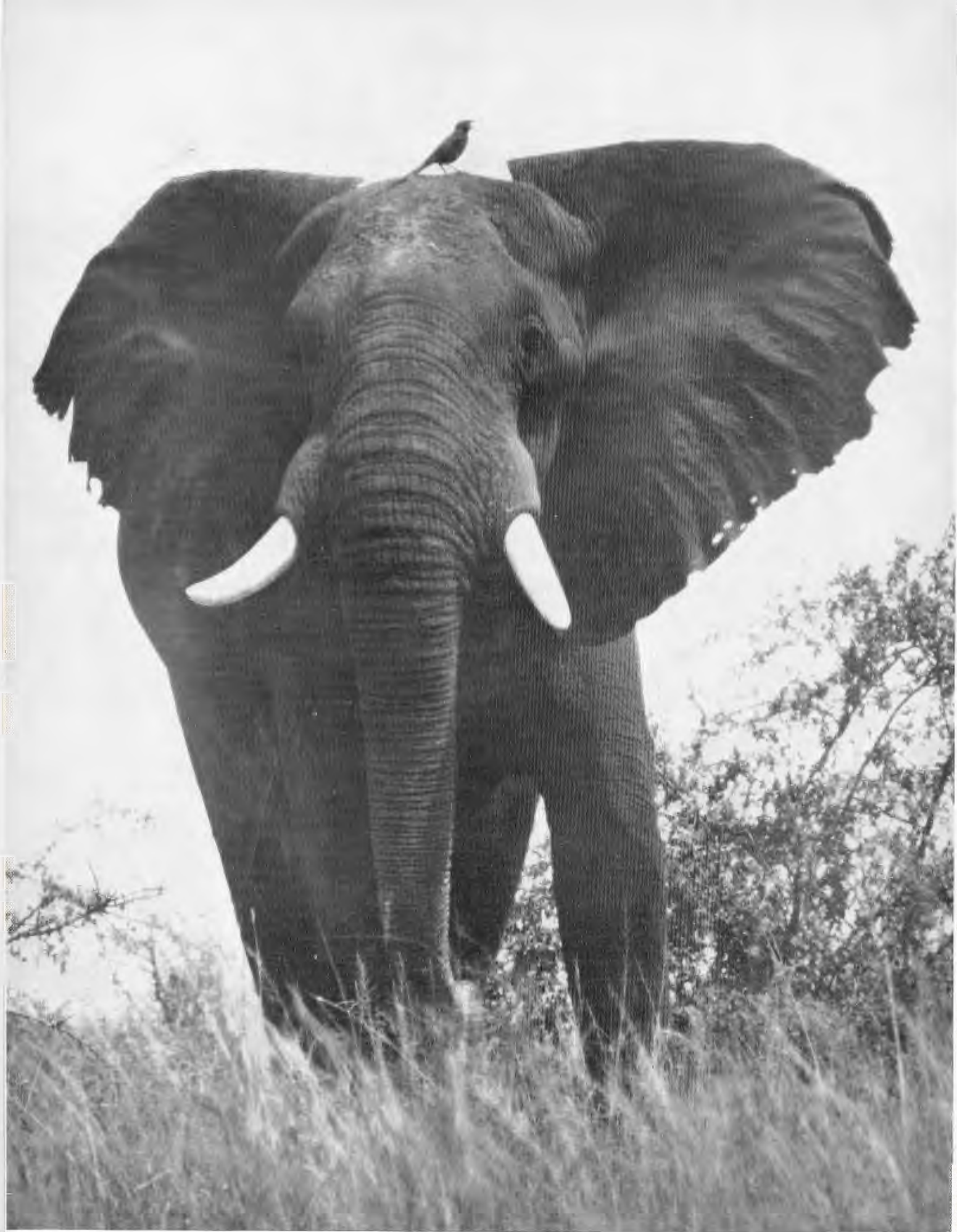
managed to keep his car going by sheer perseverance, finished eighth. Stirling came in absolutely fed up with his car. A new fuel pump was fitted and a side panel removed to assist in keeping the magneto cool. This, as a last resort, was wrapped in a wet rag. Maybe it was too late to win, but it might work. The plug was still holding, anyway! Only ten cars left on the starting grid with both Porsches out of the race, Brabham in a commanding position. Heat 3.

Ireland got away well and led for a short distance, but spun on the first lap and damaged the rear suspension of his Lotus, putting Brabham in the lead, again followed by McLaren, Marsh and Moss. Suddenly the crowd rose to its feet as Moss shot past Marsh and challenged McLaren. At last the Lotus sounded crisp, and Moss looked happier as he came past the pits. He whipped past McLaren on the next lap and was soon breathing down Brabham's exhaust pipe. On lap twelve Moss passed Brabham, and the crowd were loving it. Brabham again took the lead, and so it went on—pass and re-pass—until the end of the race, when the two leaders passed the finishing line by the pits alongside each other. Brabham was given the verdict by a tenth of a second. McLaren was third, Marsh fourth, Bianchi fifth and Allison sixth.

Jack Brabham was a worthy winner of the 1961 Brussels Grand Prix. For us? Cliff Allison got a fifth place in the general classification, and Stirling Moss was sixth after his memorable battle in the final heat. Ken Gregory and I got our free dinner from Mr. Moss. Stirling joined us—but his father paid!







*"Bird's-eye View"*

*Photo by R. C. Todhunter (Overseas Director)*